What is claimed is:

1. A crankshaft capable of rotating in forward and rearward directions;

a plurality of detectable members formed on the entire peripheral surface of the crankshaft in the circumferential direction with an equal interval between one another to rotate integrally with the crankshaft, some of the plurality of detectable members passing by a predetermined zone during rotation;

a means for detecting the passage of the detectable members arranged in the vicinity of a rotating path of the detectable members, the detecting means generating at least two signals as the detectable members pass by;

a means for determining the rotating direction of the crankshaft by combining the at least two signals generated by the detecting means;

a counting means for selectively adding or subtracting the number of detectable members detected by the detecting means based on the rotating direction of the crankshaft determined by the determining means; and

a means for controlling the engine based on the number of detections counted by the counting means.

2. An apparatus according to Claim 1, wherein the detecting means includes a first detection portion and a second detection portion spaced apart from each other by an interval smaller than the interval between adjacent detectable members.

3. The apparatus according to Claim 2 further comprising a crank rotor fixed to the crankshaft and a plurality of teeth provided for the detectable members and formed on the

periphery of the crank rotor in the circumferential direction with a predetermined interval between one another.

4. The apparatus according to Claim 3 further comprising:

a first edge and a second edge with respect to the rotating direction of the crank rotor provided on each teeth;

the first detection portion issuing a signal of either one of a high level and a low level when detecting the first edge of a tooth and issuing a signal of the other level when detecting the second edge;

the second detection portion issuing a signal of either one of a high level and a low level when detecting the second edge of a tooth and issuing a signal of the other level when detecting the second edge;

the determining means determining the rotating directions of the crankshaft by combining the signals from the first detection portion and the second detection portion.

5. The apparatus according to Claim 4 further comprising:

a means included in the counting means for computing the rotating angle of the crankshaft up to a value of 360 degrees from the number of teeth detected by the detecting means;

the locating means includes a means for resetting the counting means when the value computed by the computing means reaches 360 degrees; and

a means for recording the resetting action.

6. The apparatus according to Claim 5 wherein:

the crank rotor includes a gap formed by eliminating one of the teeth on the periphery of the crank rotor so that

is not detected by the detecting means; and

the counting means conducts a further counting process in correspondence with the gap.

7. The apparatus according to Claim 6 wherein:

the counting means counts the number of teeth detected by the detecting means as a segment value for over a predetermined rotating angle of the crankshaft, and selectively adds or subtracts the segment value as a count value when the segment value reaches a specified number.

8. The apparatus according to Claim 7 further comprising an electric control unit constituting the determining means, the counting means, and the locating means.

9. The apparatus according to Claim 8 wherein the electric control unit is supplied with electric power for a predetermined time period after the engine is stopped.

11. A crankshaft capable of rotating in forward and rearward directions;

a plurality of detectable members formed on the entire peripheral surface of the crankshaft in the circumferential direction with an equal interval between one another to rotate integrally with the crankshaft, some of the plurality of detectable members passing by a predetermined zone during rotation;

a means for detecting the passage of the detectable members arranged in the vicinity of a rotating path of the detectable members, the detecting means generating at least two signals as the detectable members pass by;

a means for determining the rotating direction of the crankshaft by combining the at least two signals generated

by the detecting means;

a first counting means for counting a basic value by selectively adding or subtracting the number of the detectable members detected by the detecting means based on the rotating direction of the crankshaft determined by the determining means;

a second counting means for locating the basic value counted by the first counting means as a computing value for computing the rotation angle of the crankshaft as a single unit when the basic value reaches a predetermined value, the computed value selectively added or subtracted in accordance with the rotating direction of the crankshaft each time the basic value reaches the predetermined value;

a means for controlling the engine in accordance with the computed value counted by the second counting means.

11. The apparatus according to Claim 10, wherein the detecting means includes a first detection portion and a second detection portion spaced apart from each other by an interval smaller than the interval between adjacent detectable members.

12. The apparatus according to Claim 11 further comprising:

a crank rotor fixed to the crankshaft;

a plurality of teeth provided for the detectable members and formed on the periphery of the crank rotor in the circumferential direction with a predetermined interval between one another;

a gap provided for the crank rotor and formed by eliminating one of the teeth on the periphery of the crank rotor so that is not detected by the detecting means; and

the counting means conducting a further counting process in correspondence with the gap.

13. The apparatus according to Claim 12 further comprising:

a first edge and a second edge with respect to the rotating direction of the crank rotor provided on each tooth;

the first detection portion issuing a signal of either a high level or a low level when detecting the first edge of a tooth and issuing a signal of the other level when detecting the second edge;

the second detection portion issuing a signal of either a high level or a low level when detecting the second edge of a tooth and issuing a signal of the other level when detecting the second edge;

the determining means determining the rotating direction of the crankshaft by combining the signals from the first detection portion and the second detection portion.

14. The apparatus according to Claim 13 further comprising:

a means included in the counting means for computing the rotating angle of the crankshaft up to a value of 360 degrees from the number of teeth detected by the detecting means;

the locating means includes a means for resetting the counting means when the value computed by the computing means reaches 360 degrees; and

a means for recording the resetting action.

15. The apparatus according to Claim 14 further includes an electric control unit to organize said judgment means, counting means, and a specifying means.

16. The apparatus according to Claim 15 further comprising an electric control unit constituting the determining means,

the counting means, and the locating means.

17. A crankshaft capable of rotating in forward and rearward directions;

a plurality of detectable members formed on the entire peripheral surface of the crankshaft in the circumferential direction with an equal interval between one another to rotate integrally with the crankshaft, some of the plurality of detectable members passing by a predetermined zone during rotation;

a means for detecting the passage of the detectable members arranged in the vicinity of a rotating path of the detectable members, the detecting means generating at least two signals as the detectable members pass by;

a means for determining the rotating direction of the crankshaft by combining the at least two signals generated by the detecting means;

a counting means for selectively incrementing or decrementing based on the number of detectable members detected by the detecting means and based on the rotating direction of the crankshaft determined by the determining means;

a means for computing the rotating angle of the crankshaft in accordance with the number of detections counted by the counting means;

a means for storing the computed value of the computing means;

a means arranged in the detectable portions for altering the rotation of the crankshaft and the circumferential position of the crankshaft and for providing the computed means with information corresponding to the counted value of the counting means in accordance with the circumferential direction; and

a means for controlling the engine based on the number of detections counted by the counting means.

18. The apparatus according to Claim 17, wherein the detecting means includes a first detection portion and a second detection portion spaced apart from each other by an interval smaller than the interval between adjacent detectable members.

19. The apparatus according to Claim 18 further comprising a crank rotor fixed to the crankshaft and a plurality of teeth provided for the detectable members and formed on the periphery of the crank rotor in the circumferential direction with a predetermined interval between one another.

20. The apparatus according to Claim 19 further comprising:

a first edge and a second edge with respect to the rotating direction of the crank rotor provided on each tooth;

the first detection portion issuing a signal of either a high level or a low level when detecting the first edge of a tooth and issuing a signal of the other level when detecting the second edge;

the second detection portion issuing a signal of either a high level or a low level when detecting the second edge of a tooth and issuing a signal of the other level when detecting the second edge;

the determining means determining the rotating direction of the crankshaft by combining the signals from the first detection portion and the second detection portion.

21. The apparatus according to Claim 20 wherein the means

for providing information includes a gap formed by eliminating one of the teeth on the periphery of the crank rotor.